

CLAIMS

1. (Canceled)
2. (Currently amended) A tempo analyzing apparatus comprising:
 - a frequency band extracting means for extracting a sound signal of a frequency in a predetermined frequency band from an input sound signal;
 - a volume calculating means for calculating a volume of the sound signal extracted by the frequency band extracting means;
 - a threshold setting means for setting a threshold used to detect a peak of change in level with reference to the volume calculated by the volume calculating means;
 - a peak detecting means for detecting positions of a plurality of ones, higher than a predetermined threshold, of peaks of change in level of ~~an input sound signal~~, the sound signal extracted by the frequency band extracting means, the peaks of change in level being detected in accordance with the threshold set by the threshold setting means;
 - a time interval detecting means for detecting a time interval between peak positions detected by the peak detecting means in a predetermined unit-time interval;
 - an interval frequency detecting means for identifying a frequently occurring one of the time intervals detected by the time interval detecting means;
 - an identifying means for accumulating a frequency of occurrence of each time interval between the positions of peaks detected in a plurality of unit-time intervals and identifying the tempo of the sound to be reproduced with the input sound signal on the basis of a maximum one among all the accumulated frequencies of time interval occurrence;
 - an image display device; and
 - a display controlling means for causing an image to be displayed on the image display device, the image corresponding to the tempo identified by the identifying means and not to a tempo identified using any auto-correlation calculation or beat structure analysis.

3. (Currently amended) The apparatus according to claim 2, ~~further comprising wherein:~~
a the frequency band dividing means is for dividing an extracting a sound input signal into in
a plurality of frequency bands from the input sound signal; ~~and~~
the peak detecting means is for detecting the peak positions for ~~each of at least~~ one or more
~~ones~~ of the plurality of frequency bands ~~divided~~ extracted by the frequency band dividing means;
the time interval detecting means is for detecting a time interval between peak positions
detected for each of ~~at least~~ the one or more frequency bands by the peak detecting means; and
the identifying means is for identifying the tempo of sound to be reproduced on the basis of
the frequently occurring one of the time intervals detected for each of ~~at least~~ the one or more
frequency bands.

4-5. (Cancelled)

6. (Currently amended) The apparatus according to claim 3, ~~further comprising wherein:~~
a the volume calculating means is for calculating volumes of sound signals of frequencies
included in ~~at least~~ one or more of the plurality of frequency bands ~~divided~~ extracted by the
frequency band dividing means; and
a the threshold setting means is for setting a threshold used to detect a peak position with
reference to the volume calculated by the volume calculating means.

7. (Cancelled)

8. (Previously presented) The apparatus according to claim 2, further comprising:
a storage means for storing video data on a plurality of images displayable on the image
display device;
wherein the display controlling means selects and reads data from the storage means and
causes an image corresponding to the read video data to be displayed on the image display device.

9. (Previously presented) The apparatus according to claim 8, wherein the display controlling means controls at least one of a size, moving speed and moving pattern of an image to be displayed on the image display device which displays an image corresponding to video data read from the storage means.

10. (Original) The apparatus according to claim 8, wherein the display controlling selectively reads video data from the storage means on the basis of the tempo identified by the identifying means and sound volume calculated by the volume calculating means.

11. (Canceled)

12. (Currently amended) A tempo analyzing method comprising steps of:

extracting a sound signal of a frequency included in a predetermined frequency band from the input sound signal; and

calculating a volume of the extracted sound signal; and

setting a threshold used to detect a peak position with reference to the calculated volume;

detecting positions of a plurality of ones, higher than a predetermined threshold, of peaks of change in level of an input sound signal the extracted sound signal, the peaks of change in level being detected in accordance with the set threshold;

detecting a time interval between the detected peak positions in a predetermined unit-time interval;

identifying a frequently occurring one of the detected time intervals;

accumulating a frequency of occurrence of each time interval between the peak positions detected in a plurality of the unit-time intervals;

identifying the tempo of the sound to be reproduced on a basis of a maximum one among all the accumulated frequencies of time interval occurrence; and

displaying an image on an image display device corresponding to the identified tempo and not to a tempo identified using any autocorrelation calculation or beat structure analysis.

13. (Currently amended) The method according to claim 12, ~~further comprising the steps of:~~
the extracting step comprises extracting ~~dividing the input a~~ sound signal ~~into~~ in a plurality of frequency bands from the input sound signal;
the detecting positions step comprises detecting the peak position ~~in each of at least~~ for one or more of the divided frequency bands;
the detecting a time interval step comprises detecting the time interval ~~of the~~ between peak positions detected for ~~in~~ each of the ~~at least~~ one or more frequency bands; and
the identifying step comprises identifying the tempo of the sound to be reproduced on the basis of the frequently occurring one ~~, having occurred at a high,~~ of the time intervals detected in each of ~~at least~~ the one or more frequency bands.

14-15. (Canceled)

16. (Currently amended) The method according to claim 13, further comprising the steps of:
calculating volumes of sound signals of frequencies included in ~~at least~~ one or more of the plurality of extracted frequency bands; ~~divided by the frequency band dividing means;~~ and
setting a threshold used to detect a peak position with reference to the calculated volume.
~~calculated by the volume calculating means.~~

17. (Cancelled)

18. (Previously presented) The method according to claim 12, further comprising the steps of:
selectively reading video data from a plurality of video data stored in a storage means on the basis of the identified tempo; and
displaying the image corresponding to the read video data on an image display device.

19. (Previously presented) The method according to claim 18, further comprising the step of:
controlling size, moving speed and moving pattern of the image to be displayed on the image display device on a basis of the identified tempo.

20. (Original) The method according to claim 18, further comprising the step of:
selectively reading a plurality of video data stored in the storage means on the basis of the
identified tempo and calculated sound volume.